

TRACTION POWER DESIGN

- TP Simulation Study- Simulation runs for South and North Corridor.
- Prefabricated Traction Power Substations furnished by SANDAG:
13 NEW SUBSTATIONS
- Existing Substations(Modifications by Mid-Coast Contract)
Continue working with SANDAG and MTS for modifications and SCADA upgrades to the existing Green Line Substations:
 1. Olive TPSS
 2. Bean TPSS
 3. Congress TPSS

Mid-Coast Corridor Transit Project

- Trolley - Green Line
- Trolley - Blue Line
- Trolley - Orange Line
- - - - - COASTER Line
- Trolley Station
- Transit Center
- COASTER Station
- ▲ TRACTION POWER SUBSTATION

Alignment

- Trolley - Future Blue Line Service on Existing Tracks
- - - - - Trolley - Future Blue Line Extension At-Grade
- ▬▬▬▬▬ Trolley - Future Blue Line Extension - Aerial
- ▬▬▬▬▬ Trolley - Future Blue Line Extension - Undercrossing
- Future Trolley Station
- New Park-and-Ride Facility
- Transit Center with a Future Trolley Station



SANDAG

4/30/2015

MID-COAST CORRIDOR TRANSIT PROJECT
LPA ALIGNMENT - STATIONS AND TPSS LOCATION MAP
(MARCH 19, 2015)



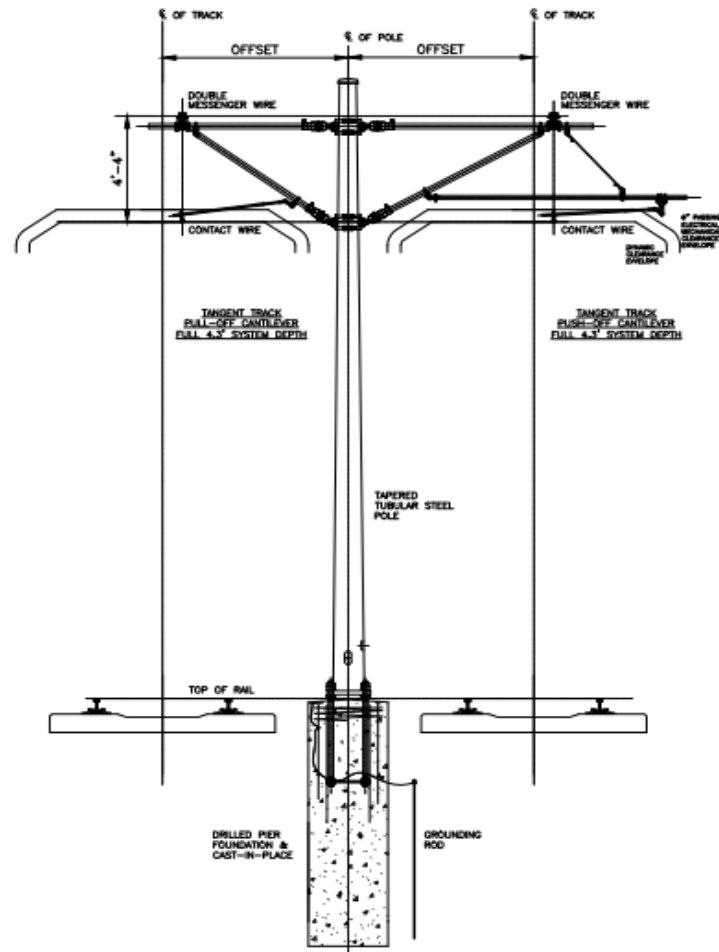


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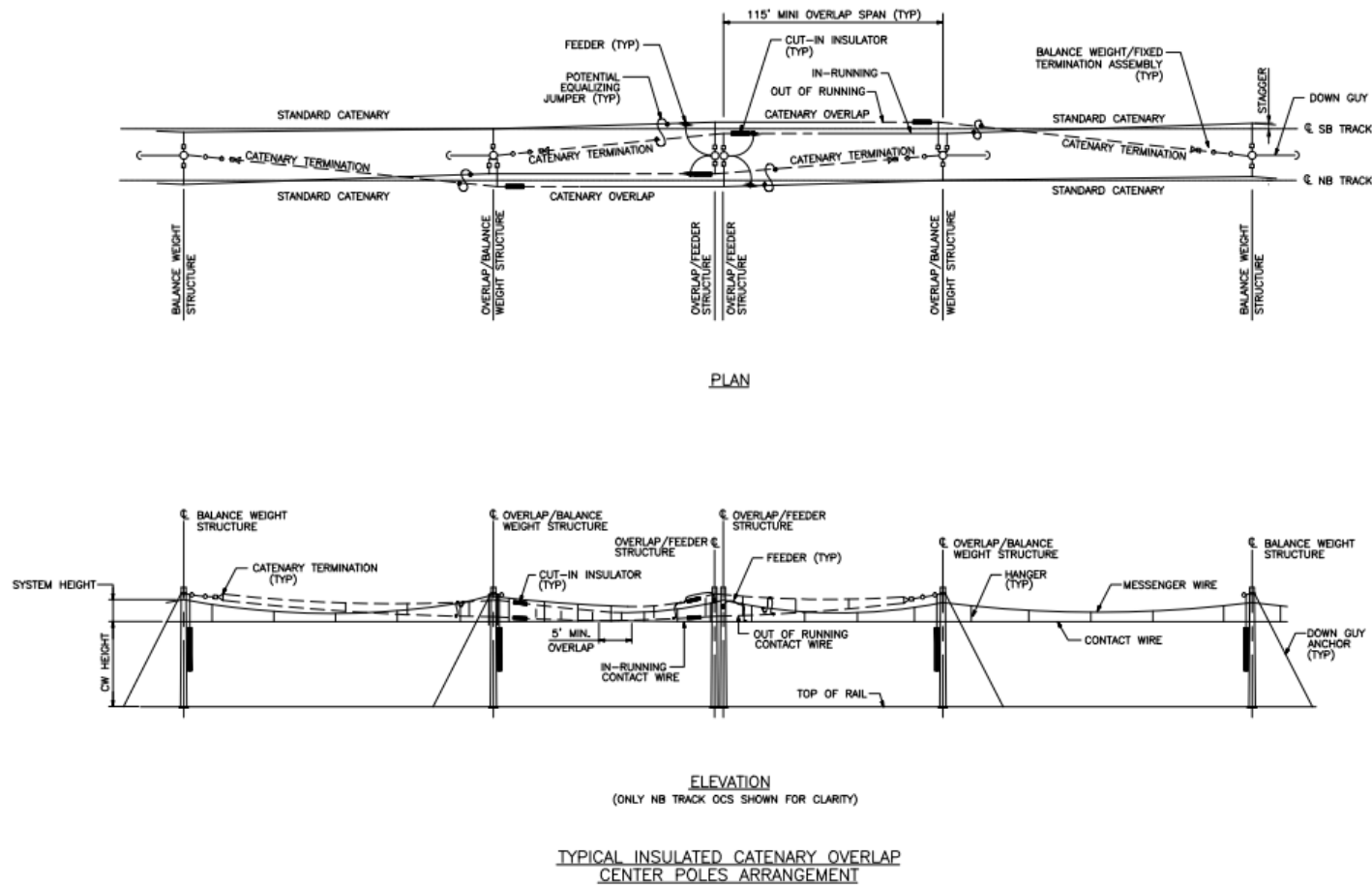
Overhead Contact System – Configuration

- OCS configuration for main line shall be Double Messenger Wire Catenary Auto-Tensioned (DMSCAT) System according to TPSS simulation result
- OCS configuration for crossovers shall be Simple Catenary Auto-Tensioned (SCAT) System
- All OCS system depth shall be 4'-4"
- All OCS poles shall be tapered round poles
- Counterweights for BWA poles are located outside of the termination poles

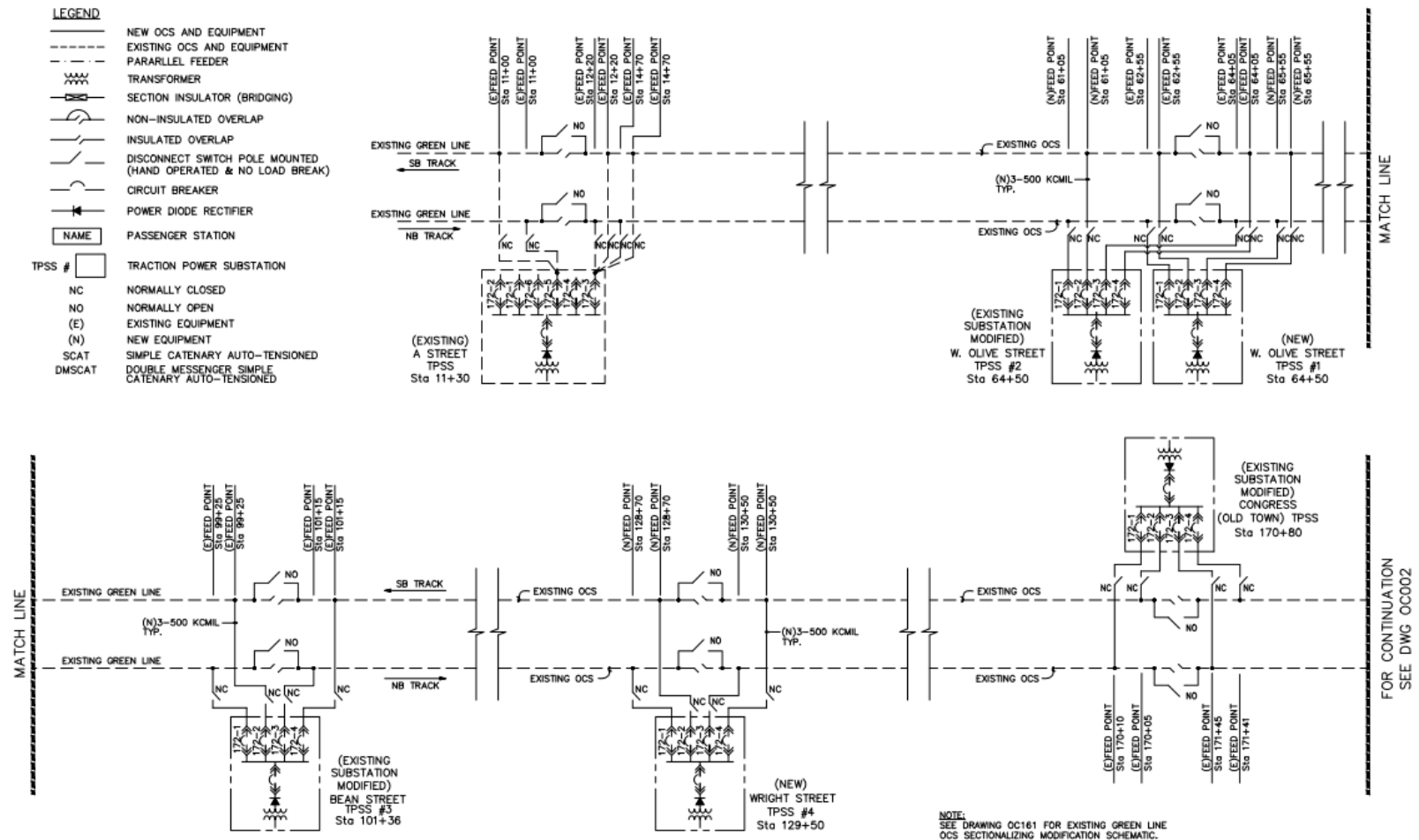
Typical Standard OCS Structure



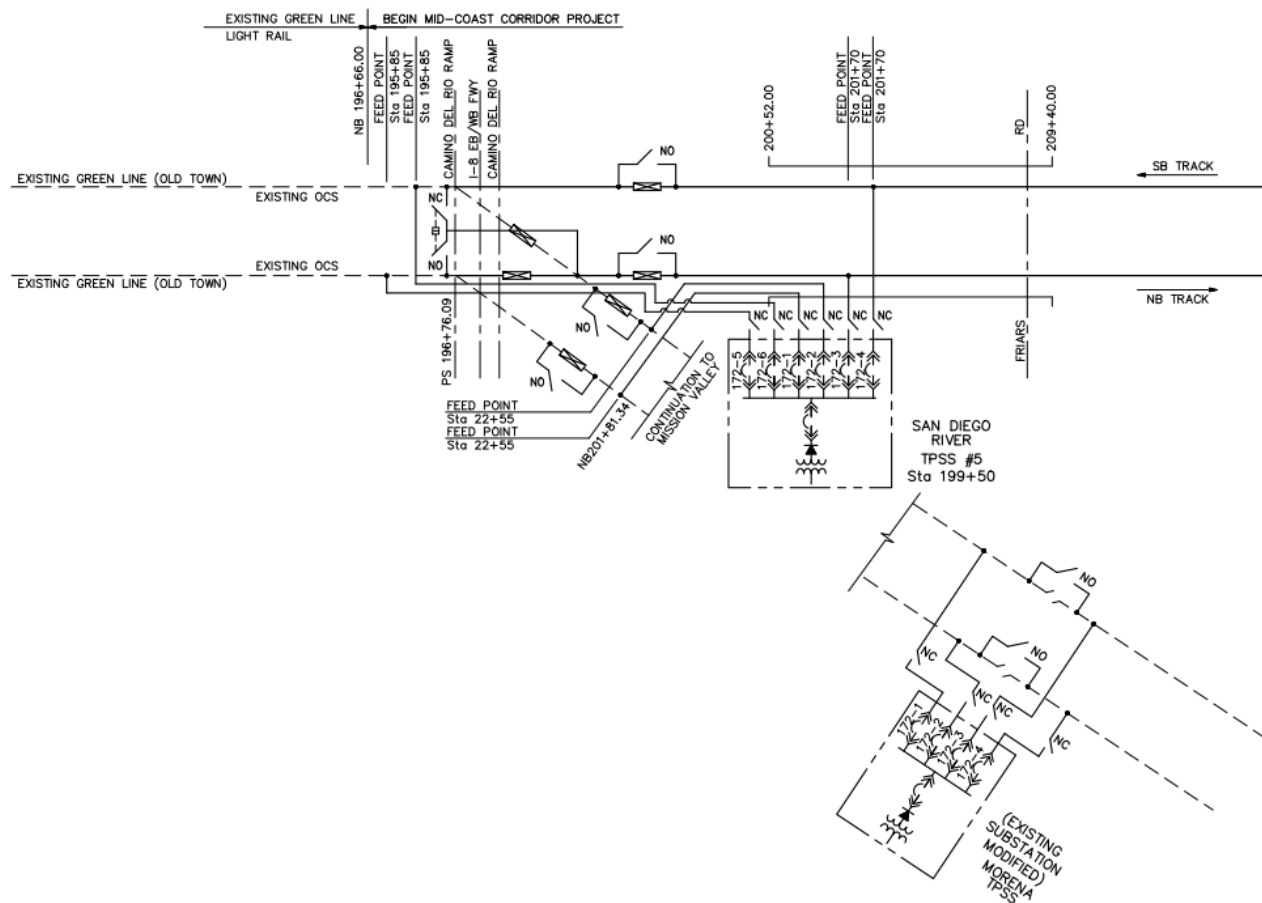
Typical OCS Overlap Arrangement



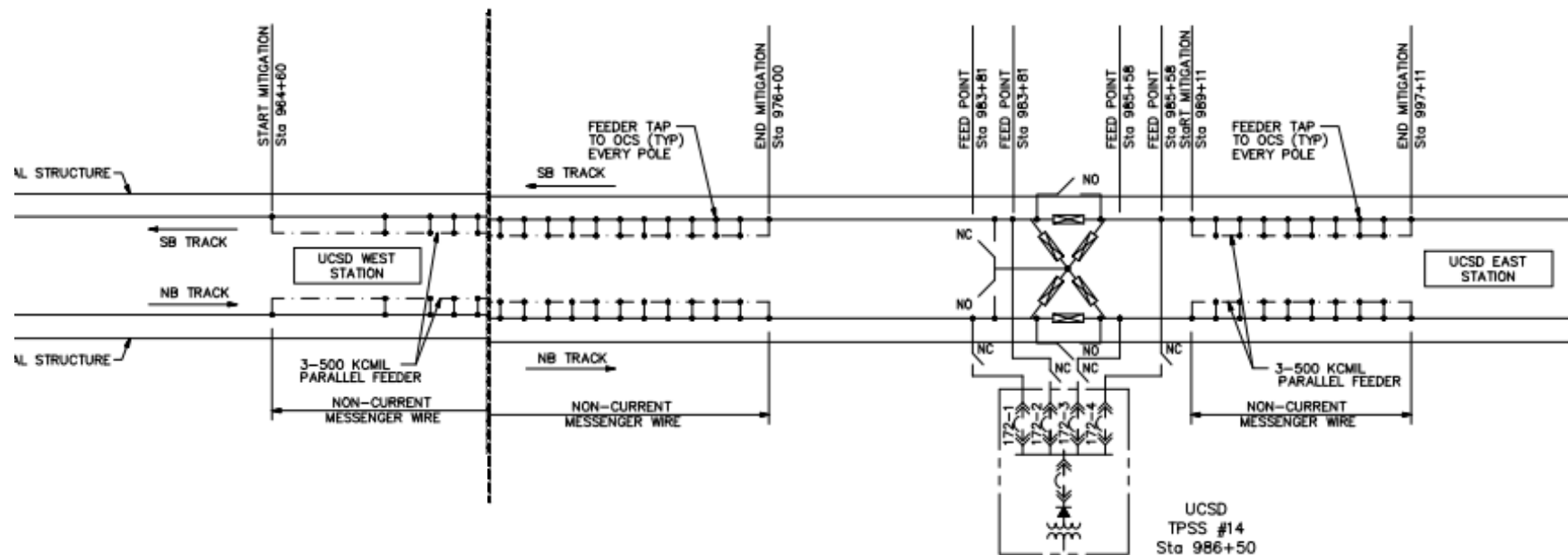
Existing Green Line Sectionalizing Modification



Existing Green line to New Mid-Coast Extension Sectionalization

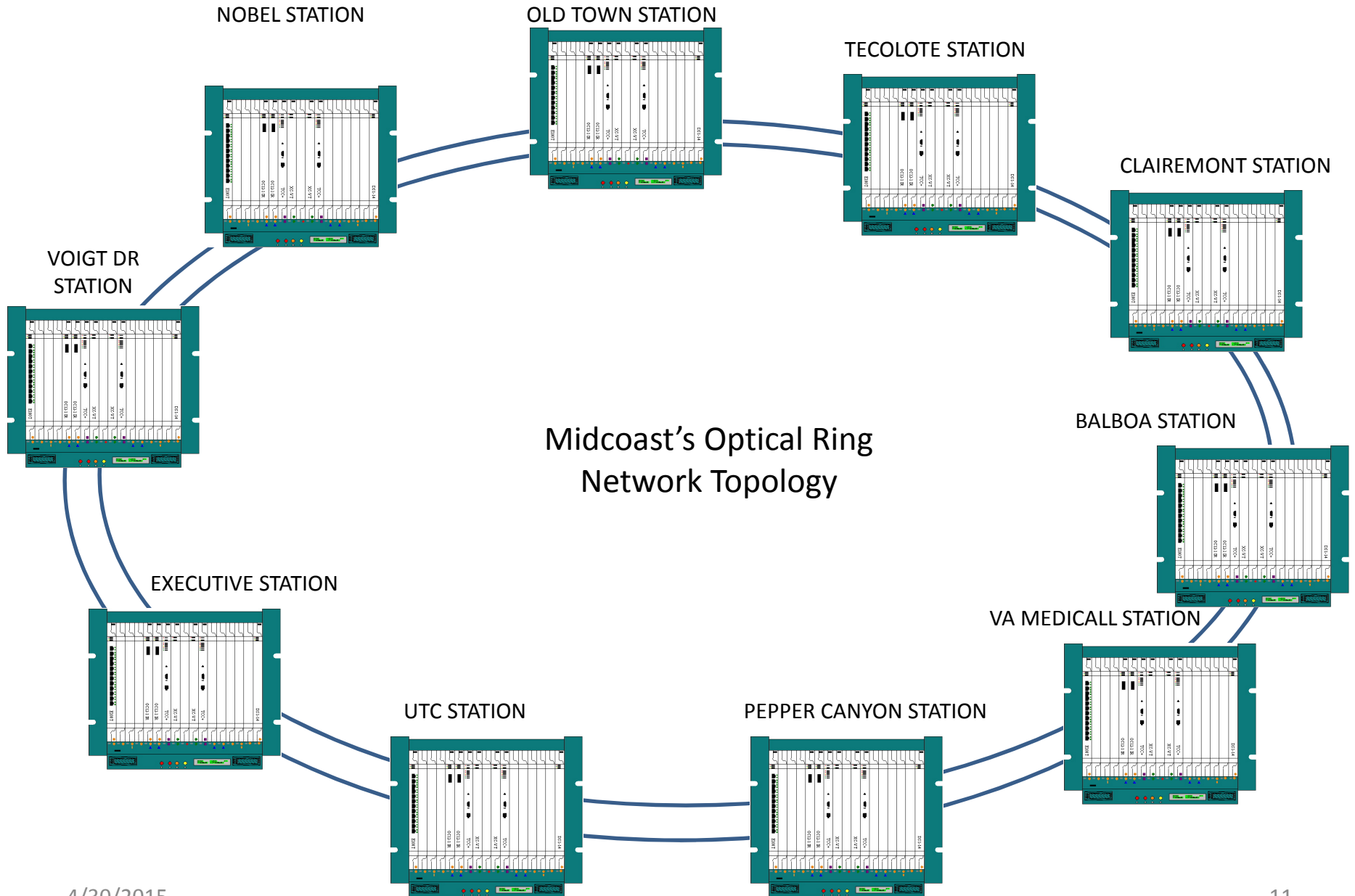


Mitigation Section from UCSD West and UCSD East Passenger Station

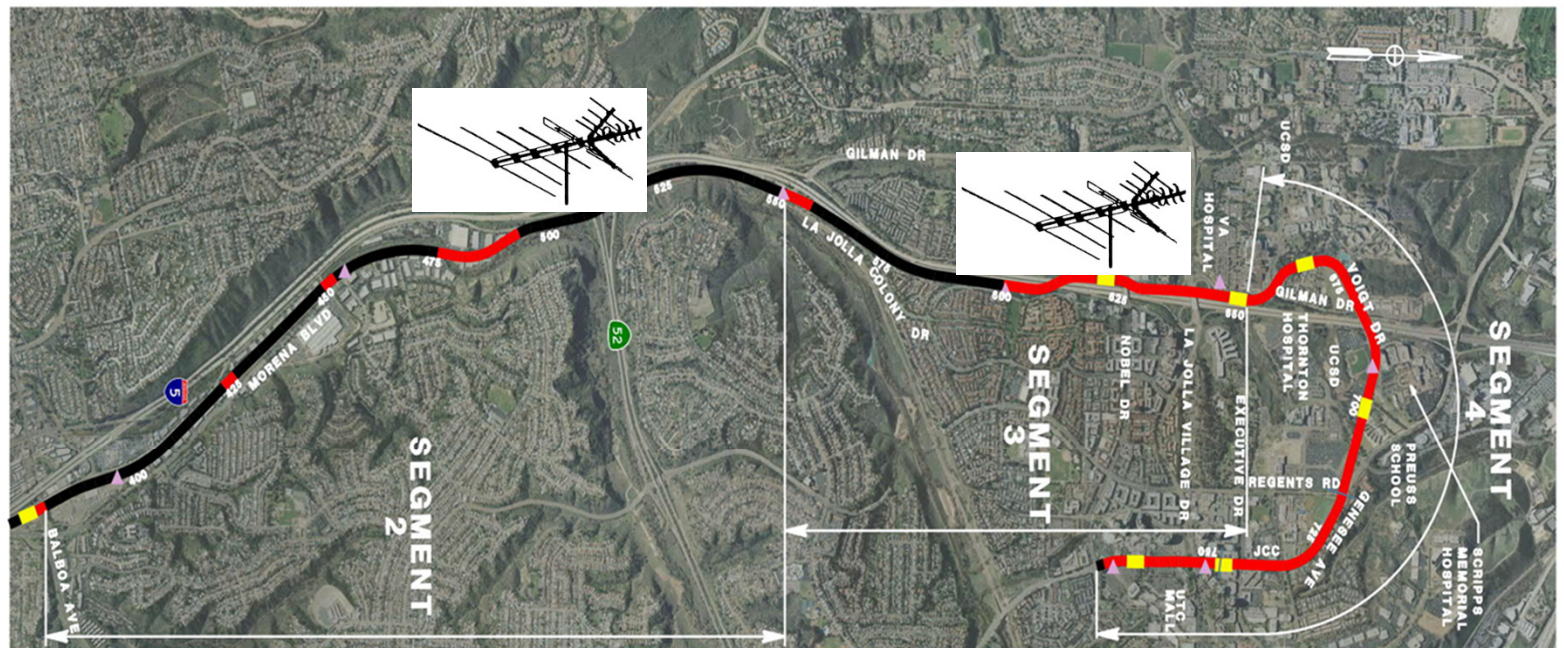
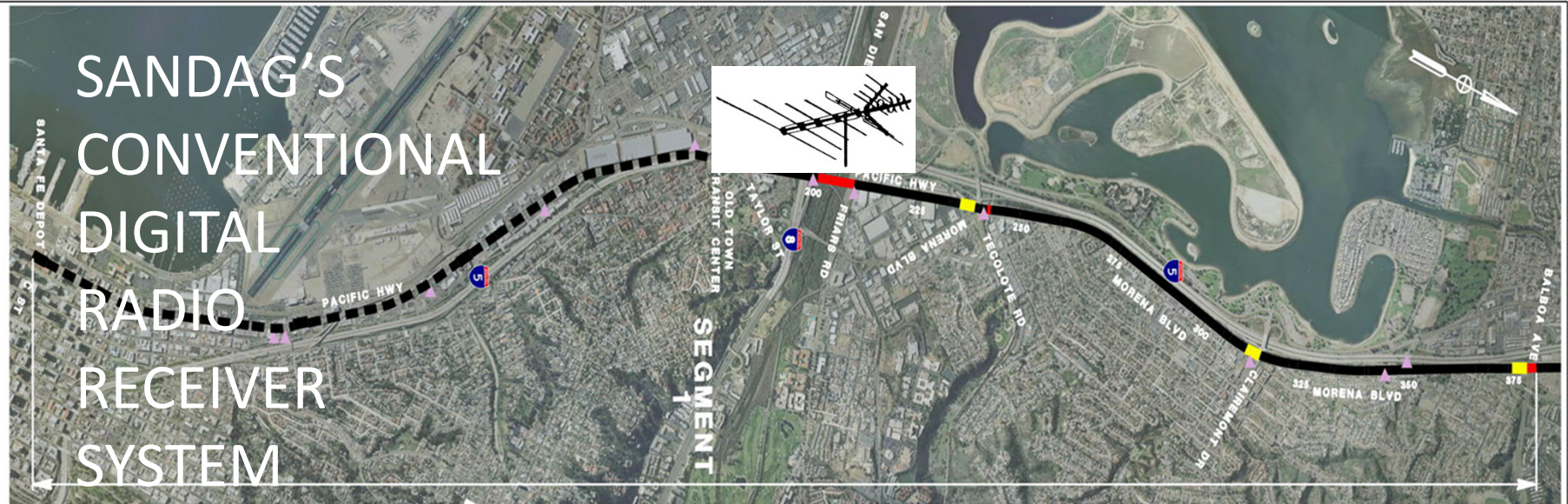


Communications System

- Communications System includes the following subsystems:
 - Wide Area Network
 - Public Address System
 - Closed Circuit Television System (CCTV)
 - Fire Alarm System
 - Access Control/Intrusion System
 - Radio System
 - UPS System
 - SCADA System
 - Fare Collection interface
 - Wireless CCTV Node for onboard train live streaming
 - Communications Facilities/ Cabinets



SANDAG'S CONVENTIONAL DIGITAL RADIO RECEIVER SYSTEM



EXISTING TRACKS
NEW LRT TRACKS

MID-COAST CORRIDOR TRANSIT PROJECT

TRAIN CONTROL SYSTEMS

SYSTEM OVERVIEW

- * DESIGN BASED ON FRA DEFINITION OF TRAFFIC CONTROL SYSTEM
- * BI-DIRECTIONAL OPERATION ON BOTH TRACKS
- * ELECTRIFIED ELECTRONIC CODED TRACK CIRCUITS
- * AUDIO FREQUENCY OVERLAY TRACK CIRCUITS
- * VITAL PROGRAMMABLE LOGIC CONTROLLER (PLC)

SYSTEM OVERVIEW

- * TRAIN TO WAYSIDE COMMUNICATIONS (TWC)
- * VITAL & NON-VITAL FIBER NETWORK
- * ROUTE ESTABLISHED BASED ON TRACK OCCUPANCY & TWC LOGIC
- * OPERATIONS CONTROL CENTER – CTC CONTROLS & INDICATIONS
- * APPLICATION LOGIC DEVELOPMENT BASED ON EXISTING SOUTH LINE (BLUE LINE) SYSTEM

OLD TOWN SEGMENT ASH STREET TO TAYLOR STREET

- * EXISTING GREEN LINE SERVICE
- * NEW INSTRUMENT SHELTERS
- * NEW LED SIGNALS
- * VITAL & NON-VITAL FIBER NETWORK ON CATENARY POLES
- * HIGHWAY GRADE CROSSINGS – VITAL PLC & SOLID-STATE CROSSING CONTROLLERS

OLD TOWN SEGMENT ASH STREET TO TAYLOR STREET

- * CROSSING TRAIN DETECTION DESIGNED TO UTILIZE DIRECTIONAL INTERLOCKING LOGIC
- * PSO 4000 CROSSING ASSEMBLIES
- * UPGRADE FLASHING LIGHT SIGNALS WITH GATES
- * UPGRADE LAMPS ON ALL STRUCTURES TO LED
- * NEARSIDE LOGIC AT STATIONS
- * UPGRADE OLD TOWN INTERLOCKINGS

MID-COAST SEGMENT FRIAR JCT. TO UTC

- * NEW INSTRUMENT SHELTERS
- * LED SIGNALS
- * VITAL PLC CONTROL
- * TWC & PUSH-BUTTON ROUTE SELECTORS AT INTERLOCKINGS
- * VITAL & NON-VITAL FIBER NETWORK

REGULATORY REQUIREMENTS

- * TITLE 49 CODE OF FEDERAL REGULATIONS (49CFR)
- * PART 219 CONTROL OF DRUG & ALCOHOL USE
- * PART 228 HOURS OF SERVICE

PERSONNEL QUALIFICATIONS

- * SIGNAL ENGINEERS
- * APPLICATION SOFTWARE ENGINEER(S)
- * SIGNAL SUPERVISOR(S)
- * CONSTRUCTION FOREMAN(S)
- * LEAD WIRE PERSON(S)